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MORBIDITY STATISTICS OF WAR INDUSTRIES NEEDED.¹

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It is hardly necessary, before a group of those who understand so intimately the difficulties which beset the epidemiologist, to amplify upon the need for more accurate, uniform, and complete statistics of morbidity. This need has long been realized. It has been well said, and with the emphasis of frequent reiteration, that "no health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring." Morbidity statistics, as an index of a population's health, are regarded without question as one of the most needed instruments and one of the most desired goals of preventive medicine.

Yet it must be confessed that we have been proceeding rather leisurely in availing ourselves of this instrument—so leisurely, in fact, that we are seriously handicapped at a time when maximum efficiency is required by national necessity of all individuals and all agencies of production and of service. There is at present no field of service in which the demand for maximum efficiency is more urgent or in which maximum efficiency is more vital than that of industrial labor, especially labor in the so-called "war industries." Such statistics of the causes of lost time by workers as we now have, indicate that while the usual major "industrial" causes of unemployment, such as slack demand for labor, have practically ceased to be operative, the time lost because of physical disability remains fairly constant.² In other words, to borrow the phraseology of Mr. W. H. Beveridge, we have pretty nearly reached what in normal times is the "irreducible minimum of unemployment."³ So far as this so-called "irreducible minimum" is due to preventable sickness,

¹ Read before the Section on Vital Statistics of the American Public Health Association, Washington, D. C., October 18, 1917.

² See the statistics of unemployment among members of representative Massachusetts unions published in the Massachusetts Reports on the Statistics of Labor, and of idleness in labor unions in New York published monthly by the New York State Industrial Commission.

³ Unemployment: A Problem of Industry, p. 72.

the responsibility for its further reduction rests upon those whose duty it is to see that the workers' physical efficiency is at its highest point. The obligation goes even further. While industry to-day needs every ounce of labor force that it can get, yet in the struggle upon which the nation has engaged itself, the length and strain of which can not be foreseen, it is a shortsighted policy to gauge labor efficiency in terms of the output of over-exertion. The men and women upon whose work depends the steady productiveness of mechanical power are irreplaceable factors. To make them more efficient, and to conserve them, it is not enough that the existing standards of labor be maintained; it may be found advisable, just as it has been found in Great Britain, to revise and even to raise and make more rigid our standards. The point in this which is of vital concern to us is that whatever may be necessary to be done should be accomplished with as great a degree of scientific accuracy and of properly directed effort as is possible. Efficiency in the prevention of disease among industrial workers was never more clearly indispensable than now.

It is difficult to see how this can be accomplished without a dependable current index of the health of the workers, such as a properly administered system of morbidity statistics will afford. It is not sufficient for us to assume that certain manifestly desirable measures, such as vigilance against specific poisons and against excessive fatigue in occupations already recognized as hazardous in these respects, and the wholesale sanitation of places of work and of industrial communities, are all that are required for conserving the health of wage-earners and their families. These measures may be adequate, but we do not know. Certainly the inquiries of the British Health of Munitions Workers Committee do not suggest such a conclusion.¹ On the contrary, the problem appears to be more complex because of the effect of certain factors already operating but not yet accurately evaluated, and because of the possible effects of other factors which may be called into existence by new conditions.

Some of these factors may be mentioned. For example, one of the immediate factors which may have a relation to the health of wage earners is the readjustment occurring in the labor supply. New industries have been brought into existence by the war and there has been a greatly increased activity on the part of the basic indus-

¹ The reader is referred to the convenient reprints of the memoranda and reports of the British Health of Munitions Workers Committee which have been issued, in compliance with a resolution of the American Council of National Defense, by the United States Bureau of Labor Statistics as Bulletins 221, 222, 223, and 230, and which have been, from time to time, abstracted in the Monthly Review of the Bureau of Labor Statistics. See especially the memoranda relating to diet (in Bulletin 222), and employment of women and children (in Bulletin 223), and the reports on causes and conditions of lost time, incentives to work with special reference to wages, etc. (in Bulletin 230).

tries. In the face of an unprecedented demand for labor have come the withdrawal of a large number of younger male workers for the Army and Navy and for their supporting services, the entrance of more women and of older men into industry, and a tendency toward a greater employment of physically and mentally deficient persons. As the result of these readjustments, we may naturally expect some significant changes in the status of the workers' health. A second possible factor is the incentive to unusual effort on the part of workers because of higher wages, or the pressure of increased living costs, or the desire on the part of employers to obtain maximum production. The possible effects of work without necessary rest, especially on female workers, have been made a subject of study by the British munitions authorities which indicates significant conclusions. A third factor is the possible tendency toward relaxing hygienic standards in factories under what are termed "emergency conditions." The tendency is, of course, a natural one, but it is nevertheless fraught with great danger. A fourth factor, of by no means small importance, is the effect upon the health of the wage earner and his family of the lack of proper diet. There are already unmistakable evidences, for example, that the difficulties of proper distribution and the increased cost of foodstuffs are having serious effects upon the health of textile workers in certain parts of the South.

These are only a few of the factors which should be detected and evaluated. Their influence upon the health of workers is impossible of satisfactory indication or measurement unless there is a systematic recording of sickness in such a way as to permit of analysis with respect to sex, age, occupation, and various other conditions of physical status and environment of the persons concerned. The continued emphasis which Sir George Newman, the chairman of the British Health of Munitions Workers Committee, and his associates, have placed upon the adequate recording of sickness as fundamentally necessary to intelligent steps for the prevention of lessened efficiency in war industries,¹ has for us the significant implication that we should not fail to benefit by British experience without further delay. In many other lines of service the progress which ordinarily would have been reached with a tolerable degree of satisfaction in years has,

¹ "Every case of lost time or absence (on the part of the worker) calls for inquiry. It should be properly recorded. A study of such records is certain to disclose the existence of adverse influences or circumstances to-day unsuspected, which may denote the beginning of sickness. * * * Medical certificates should be required, correctly recorded and carefully examined. Week by week the management should scrutinize their chart of sickness returns and study their rise and fall. Only thus can they keep themselves advised of this vital matter." Memorandum No. 10 (on "Sickness and injury") of the British Health of Munitions Workers Committee, reprinted in United States Bureau of Labor Statistics Bulletin 222: Hours, Fatigue, and Health in British Munition Factories (pp. 61-71). See also the report on "Causes and Conditions of Lost Time" by T. Loveday, reprinted in United States Bureau of Labor Statistics Bulletin 230 (pp. 42-95), especially the chapter on "Sickness" and the significance of sickness statistics (pp. 48-71).

under the spur of necessity and in a remarkable spirit of cooperation, been attained in months. The suggestion appears pertinent, therefore, that we should no longer look upon statistics of morbidity as a goal to be attained at some indefinite time in the future, but should regard it as an instrument which is immediately necessary to the task in hand.

The inadequacy of the morbidity statistics now available hardly needs to be emphasized except for the purpose of suggesting specific defects to be remedied and available agencies for the recording of sickness. What statistics we now have are fragmentary, not uniform, unrelated to conditions except in a few very general respects, and extremely scanty. The regularly collected statistics of morbidity by our Federal, State, and local health agencies consist of weekly and monthly reports of merely the number of cases of certain diseases (principally the communicable diseases) occurring among the general population. They are not available for analysis for a specific population such as the wage earners in a given industry, and they can not be correlated with age or sex or occupation. The only other morbidity records available are those of cases of disabling sickness and non-industrial accidents among wage earners who belong to union, establishment, and other varieties of sickness insurance funds, and among the employees of a few manufacturing and transportation companies which attempt to record all cases of sickness. These records lack uniformity in many respects. The funds have different regulations governing the kinds of sickness reported and the actual proportion of reportable cases. In very few instances can they be classified according to sex, and hardly any instance has been found in which the ages of both the exposed population and the disabled individuals have been recorded. The records apply only to insured wage earners who are often a distinctly selected group, excluding those who are physically defective from chronic diseases and other causes, the temporary or casual laborers, and the large mass of those who are unable to pay the cost of insurance. Even in those establishments where the medical service is of an efficient type and where the records are kept in a businesslike and accurate manner, sex, age, and occupation are not recorded in such a way as to be expressed in relation to exposure. While several community sickness surveys have already afforded extremely valuable statistics, and this method, as well as the enumeration of serious sicknesses on census days, will yield even more important data, their usefulness is limited because they do not afford a continuous and therefore a current index to the status of a population's health.

Is it feasible to secure adequate and continuous morbidity statistics for war industries?

Let us briefly review, first, what the minimum requirements for useful statistics of morbidity should be. Tentatively the following are suggested:¹

1. Exposure, in years or in months, of the workers who should be classifiable according to sex, age, and occupation.
2. Cases of sickness (at least those causing disability), including (a) sex, age, and occupation of persons affected, and (b) cause of sickness with time of onset, length of disability, and nature of termination.

For certain establishments where the records may be made more complete, and in special studies of the causes of sickness, various other data relating to the length of time in given occupations, the economic status, the sanitary conditions, and the like, of the exposed population and of the persons affected, are possible of collection. The foregoing, however, refers to minimum requirements for a maximum volume of data.

Second, the practicability of securing current morbidity statistics which will measure up to these requirements. It is believed that their collection is practicable within certain bounds for the following reasons:

1. A large number of industrial and transporting establishments are already in the habit of recording disabling cases of sickness, and a considerable number of the larger establishments employ industrial physicians and provide medical service. The tendency is unmistakably toward an extension of sick-benefit funds and of medical supervision and service.
2. There is a very evident willingness on the part of many employers, as well as on the part of many organizations of labor and associations for sick benefits, to cooperate in every way possible with the public health agencies. This willingness was clearly manifested before the outbreak of the war and has been undoubtedly greatly increased since the war began.
3. There already exists, therefore, a basis for an important beginning in the recording of morbidity. It is believed practicable to utilize the facilities that already are available, provided, (a) that the recording of exposure and incidence be extended to all the em-

¹ In this connection reference may be made to the resolution passed by the Annual Conference of State and Territorial Health Officers with the United States Public Health Service in Washington, April 30-May 1, 1917. This resolution set forth "as minimum standard morbidity tables for publication in annual reports of State and Territorial health authorities tables giving the distribution of cases of the notifiable diseases, as follows:

"1. Chronologically by months; 2. By sex; 3. By 5-year age groups up to 25 years, and by 10-year age groups after 25 years; 4. By termination (recovery or death); 5. Geographically by counties and municipalities." (U. S. Public Health Service Public Health Reports, May 11, 1917; 32:690.)

See also "Vital Statistics: 1917 Progress Report of the Committee on Relation of 1920 Census to Vital Statistics to the Section in Vital Statistics, American Public Health Association," by William H. Guilfooy M. D., chairman, and Edwin W. Kopf, corresponding secretary, of the committee, New York Medical Journal, Oct. 6, 1917 (CVI:633-636).

ployees of each plant, (b) that uniformity be established in the form of the medical certificate and in the records of age, sex, and occupation of the persons exposed and affected, (c) that regularity of reporting be effected, and (d) that there be a responsible central supervising, assembling, and publishing agency for the statistics recorded. There can be little doubt that with such a beginning as the cooperation of even a few large establishments would make possible, the systematic collection and analysis of morbidity statistics for not only the "war industries," but for other industries would rapidly develop.

This conclusion has been reached after a survey of the existing disability records of over 400 establishment sick-benefit funds and a more detailed inquiry into and conference with a number of establishments having such funds, or medical supervision of employees, or both, and maintaining regular records of disabling sickness for part or all of their employees. It is fully realized that considerable modifications of the suggested minimum requirements may be found advisable when further consideration is given and as experience is gained after the work is begun. The foregoing is believed to be a practical suggestion for inaugurating a method of morbidity statistics for industries which will be of great service with the least possible delay, and which will afford a foundation for later development.

Whether or not this or some other suggestion is the more feasible is, however, of less importance than the fact that morbidity records of such a kind as to afford a current index of the health of industrial labor are not merely desirable but necessary in the present emergency. They are necessary because they are an instrument without which public health administration can not most efficiently do its important part in helping to maintain our industrial forces at their full strength. It does not seem that we can afford to continue to be handicapped in this respect.